

AMENDMENT NO. 1 JANUARY 2019
TO
IS 11714 (PART 1 TO 5) : 1986 SPECIFICATION FOR
STEEL TUBES FOR HEAT EXCHANGERS

(Page 6, *clause 6.3*) — Substitute the following for the existing clause:

‘**6.3** The tensile strength, yield stress and the percentage elongation shall be determined in accordance with IS 1608 (Part 1) : 2018 Metallic materials — Tensile testing : Part 1 Method of test at room temperature (*fourth revision*).’

(Page 9, *clause 11.5*) — Insert the following new clause after **11.5**:

‘**11.6** Rockwell hardness test shall be carried out as per IS 1586 (Part 1) : 2018/ISO 6508-1 : 2016 Metallic materials — Rockwell hardness test : Part 1 Test method (*fifth revision*) and Brinell hardness test shall be carried out as per IS 1500 (Part 1) : 2018/ISO 6507-1 : 2015 Metallic materials — Brinell hardness test : Part 1 Test method (*fourth revision*).’

(Page 10, *clause 13.1*) — Substitute the following for the existing clause:

‘**13.1** Each tube shall be tested with a non-destructive electric test in accordance with methods given in IS 6394 : 2006 Ultrasonic testing of seamless metallic tubular products by contact and immersion methods — Code of practice (*second revision*), IS 6398 : 1983 and IS 7343 : 1986 Code of practice for ultrasonic testing of ferrous welded pipes and tubular products (*first revision*).’ It is the intent of the test to reject tubes containing injurious defects.

(Page 10, *footnote **) — Delete.

(Page 10, *footnote ‡*) — Delete.

(Page 19, *clause 26.2*) — Insert the following new clause at the end:

‘27 BIS CERTIFICATION MARKING

The tube may also be marked with the Standard Mark.

27.1 The use of standard mark is governed by the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations made thereunder.

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The details of conditions under which the license for the use of standard mark may be granted to manufacturers or producer may be obtained from Bureau of Indian Standards.'

(Pages 21, 25,31, 40, *clause 5.1*) — Insert the following new clause:

'**5.2** The analysis of steel shall be carried out either by the method specified in IS 228 and its relevant parts or any other established instrumental/chemical methods. In case of dispute, the procedure given in IS 228 and its relevant parts shall be the referee method. However, where method is not given in IS 228 and its relevant parts, the referee method shall be as agreed to between the purchaser and the manufacturer.'

(Page 37, *clause 10.6*) — Insert the following new clause at the end:

'**10.6.1** Grain size shall be measured as per IS 4748 : 2009/ISO 643 : 2003 Steels micrographic determination of the apparent grain size (*second revision*).'